CLAIMS

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1. An apparatus performing the addition of a PKG recoded number, said apparatus comprising:

a circuitry configured to receive at least a first value and a second

4 value, wherein said second value is a PKG value; and

wherein said circuitry generates a sum value and a carry value.

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2. The apparatus of claim 1, wherein said sum value and said

carry value are dual rail encoded values.

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3. The apparatus of claim 1, wherein said circuitry further comprises:

a first adder configured to add said first value and said second PKG

value, said first adder generates a PKG value and a carry-out value.

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4. The apparatus of claim 3, wherein said circuitry further

2 comprises:

a second adder configured to add said PKG value from said first

4 adder and a carry in value.



5. The apparatus of claim 3, wherein said first value is a PKG value.

- 1 6. The apparatus of claim 1, further comprising:
- a recoder configured to convert at least one dual rail encoded value
- 3 into said second PKG value.
- 7. A method for performing the addition of PKG recoded numbers, comprising the steps of:

receiving a first value;

receiving a second PKG value; and

generating a sum value and a carry value from said first value and

said second PKG value.

- 1 8. The method of claim ∇ , further comprising the steps of:
- adding said first value and said second PKG value;
- generating a first result PKG value from said adding; and
- generating a first carry-out value from said adding.
- 1 9. The method of claim 8, further comprising the steps of:
- adding said first result PKG value and a carry-in value;
- generating a final sum value from said adding; and
- generating a final carry-out value from said adding.
 - 10. The method of claim 9, wherein said final sum value and said
- 2 final carry-out value are dual rail encoded values.

- 1 11. The method of claim 8, wherein said first value is a PKG value.
- 12. The method of claim 7, further comprising the step of:
- converting at least one dual rail encoded value into said second PKG value.

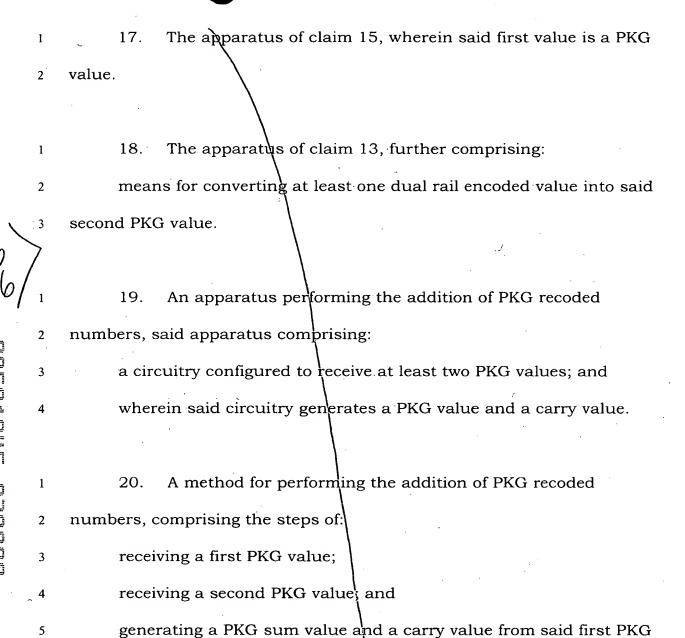
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- 13. An apparatus for apparatus performing the addition of PKG
- 2 recoded number, said apparatus comprising:
- means for receiving a first value;
- 4 means for receiving a second PKG value; and
- 5 means for generating a sum value and a carry value from said first
- 6 PKG value and said second PKG value.
- 1 14. The apparatus of claim 13, further comprising:
- means for adding said first value and said second PKG value to
- 3 generate a first result PKG value and a first carry-out value.
- 1 15. The apparatus of claim 14, further comprising:
- means for adding said first result PKG value and a carry-in value to
- 3 generate a final sum value and a final carry-out value.
- 1 16. The apparatus of claim 15, wherein said final sum value and
- 2 said final carry-out value are dual rai encoded values.

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value and said second PKG value.





21. An apparatus for apparatus performing the addition of PKG

recoded number, said apparatus comprising:

means for receiving a first PKG value;

means for receiving a second PKG value; and

means for generating a PKG sum value and a carry value from

6 addition of said first PKG value and said second PKG value.

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